

IN THE CLAIMS

1. (Currently Amended) A nonaqueous electrolyte secondary battery comprising a positive electrode having a positive electrode active material, a negative electrode containing a negative electrode active material capable of being doped/undoped with lithium nonaqueous electrolyte, a separator, and an exterior casing,

wherein,

the positive electrode comprises a positive electrode sheet comprising a positive electrode collector and positive electrode active material layers containing the positive electrode active material formed on opposite both surfaces of the positive electrode collector,

the negative electrode comprises a negative electrode sheet comprising a negative electrode collector and negative electrode active material layers containing the negative electrode active material formed on both surface of the negative electrode collector,

the negative electrode active material comprises a graphite material with a true density of 2.1 g/cm³ or more, a (002) interplanar distance of less than 0.340 nm, and an average value of the shape parameter X of 125 or less, the shape parameter X being equal to (W/T)x(L/T), W being the length of a parameter in a direction perpendicular to the longitudinal axis, T being the thickness of the thinnest portion of the particle, L being the length of the particle in the longitudinal direction,

the positive electrode and the negative electrode are stacked with the separator there between and the resulting stack is rolled in a longitudinal direction to form spirally-wound electrodes,

the spirally-wound electrodes are accommodated within the exterior casing; and the nonaqueous electrolyte comprises from 0.03 to 10 percent by weight of the nonaqueous

electrolyte which comprises thioacetate, a material selected from the group consisting of thiols, thiophenes, thioanisoles, thiazoles, thioacetates, and aromatic sulfones.

Claims 2-3 (Cancelled)

4. (Original) A nonaqueous electrolyte secondary battery according to Claim 1, wherein the positive electrode active material comprises one of a lithium-containing metal oxide and an intercalation compound containing lithium.

5. (Original) A nonaqueous electrolyte secondary battery according to Claim 4, wherein the positive electrode active material comprises a composite oxide of lithium and a transition metal represented by the general formula LiMxOy , wherein M is at least one selected from the group consisting of Co, Ni, Mn, Fe, Al, V, and Ti.

Claims 6-8 (Cancelled)

9. (Original) A nonaqueous electrolyte secondary battery according to Claim 1, wherein the nonaqueous electrolyte is one selected from a liquid nonaqueous electrolyte prepared by dissolving an electrolyte salt into a nonaqueous solvent, a gelified electrolyte prepared by gelifying the nonaqueous electrolyte liquid by using a gelatinizer, a polymer gel electrolyte containing an electrolyte salt dissolved in a nonaqueous electrolyte which is held in a polymer matrix, and a solid electrolyte containing an electrolyte salt dissolved in a polymer matrix.

10. (Original) A nonaqueous electrolyte secondary battery according to Claim 9, wherein the polymer matrix comprises one selected from the group consisting of poly(vinylidene fluoride), copolymers of vinylidene fluoride and hexafluoropropylene, polyamides, aromatic polyamides, polyolefins, polyesters, polycarbonates, polyimides, poly(met)acrylates, and polyacrylonitrile.

11. (Original) A nonaqueous electrolyte secondary battery according to Claim 9, wherein the electrolyte salt comprises at least one lithium salt selected from the group consisting of LiClO₄, LiAsF₆, LiPF₆, LiBF₄, LiB(C₆H₅)₄, CH₃SO₃Li, CF₃SO₃Li, LiN(CF₃SO₂)₂, LiC(CF₃SO₂)₃, LiCl, and LiBr.

12. (Cancelled)

13. (New) A nonaqueous electrolyte secondary battery according to Claim 1, wherein the thioacetate is at least one selected from the group consisting of methyl thioacetate, ethyl thioacetate, phenyl thioacetate, methyl fluoromethylthioacetate, methyl difluoromethylthioacetate, ethyl difluoromethylthioacetate and the derivatives thereof.

14. (New) A nonaqueous electrolyte secondary battery according to Claim 1, wherein the nonaqueous electrolyte is at least one selected from the group consisting of methanethiol, ethanethiol, thiophenol, 4-fluorothiophenol, 2-chlorothiophenol, 4-t-butylthiophenol, 4-t-butyl-1,2-benzenethiol and derivatives thereof.

15. (New) A nonaqueous electrolyte secondary battery according to Claim 1, wherein the nonaqueous electrolyte, a material at least one selected from the group consisting of 2-acetylthiophene, 3-acetylthiophene, 2,5-diacetylthiophene, 2-thiophenecarbonylchloride, 2-methoxycarbonylthiophene, 2,5-bismethoxycarbonylthiophene and the derivatives thereof.

16. (New) A nonaqueous electrolyte secondary battery according to Claim 1, wherein the nonaqueous electrolytes are thioanisoles.

17. (New) A nonaqueous electrolyte secondary battery according to Claim 16, wherein the thioanisole is at least one selected from the group consisting of thioanisole, 4-methylthiobenzonitrile, 4-methylthioacetophenone, 2-methylthiobenzaldehyde, 2-chlorothioanisole, 4-bromothioanisole and the derivatives thereof..

18. (New) A nonaqueous electrolyte secondary battery according to Claim 1, wherein the nonaqueous electrolytes are thiazoles.

19. (New) A nonaqueous electrolyte secondary battery according to Claim 18, wherein the thiazole is at least one selected from the group consisting of 1,2-benzisothiazole and the derivatives thereof.

20. (New) A nonaqueous electrolyte secondary battery according to Claim 1, wherein the nonaqueous electrolytes are aromatic sulfones.

21. (New) A nonaqueous electrolyte secondary battery according to Claim 20, wherein the aromatic sulfone is at least one selected from the group consisting of methyl phenyl sulfone, 4-methylsulfonylacetophenone, tribromomethylphenylsulfone and their derivatives.